

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
6 March 2003 (06.03.2003)

PCT

(10) International Publication Number  
WO 2003/019084 A3

(51) International Patent Classification<sup>7</sup>: F25D 11/00,  
17/02

(21) International Application Number:  
PCT/IB2002/003367

(22) International Filing Date: 21 August 2002 (21.08.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2001/6913 22 August 2001 (22.08.2001) ZA

(71) Applicant and

(72) Inventor: JANSE VAN RENSBURG, Louis, Meiring  
[ZA/ZA]; 135 Zamiapalm Street, 0159 Montanapark (ZA).

(74) Agent: MACKENZIE, Colin; Adams & Adams, Adams  
& Adams Place, 1140 Prospect Street, Hatfield, PO Box  
1014, 0001 Pretoria (ZA).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK,  
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

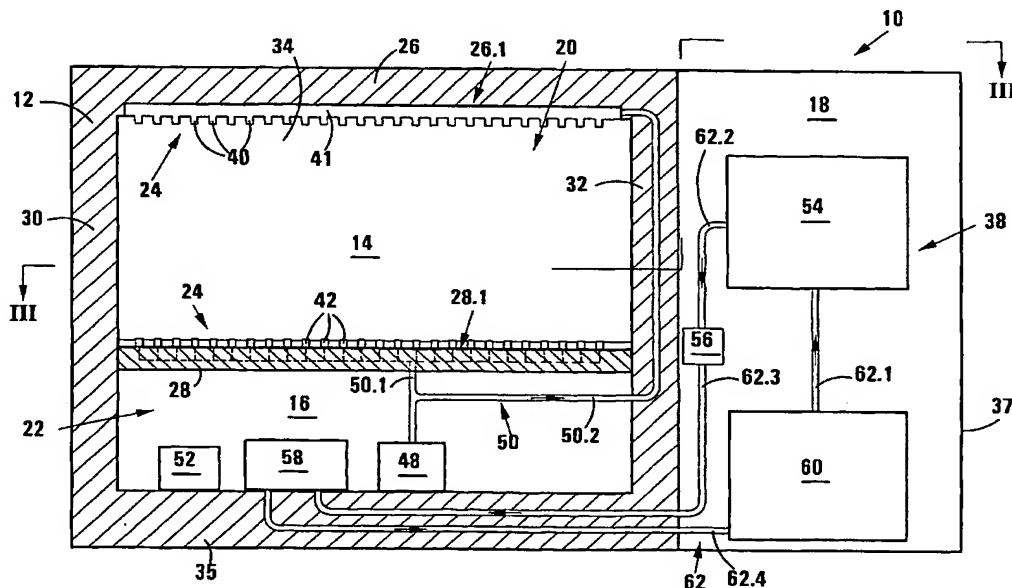
Published:

— with international search report

(88) Date of publication of the international search report:  
27 May 2004

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: A REFRIGERATION UNIT



(57) Abstract: The invention relates to a refrigeration unit (10). The unit includes a refrigeration zone (20) for receiving an item or items to be refrigerated, and dispensing means (24) oriented relative to the refrigeration zone so as to enable dispensing of a working fluid into the refrigeration zone. The unit further includes catchment means which are arranged relative to the refrigeration zone so as to collect the working fluid after it has been dispensed into the refrigeration zone. The unit includes also cooling means (38) for cooling the working fluid in use. The invention extends to a method of refrigerating an item.

WO 2003/019084 A3

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB 02/03367

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 F25D11/00 F25D17/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 F25D F25B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 537 821 A (MK REFRIGERATION LTD) 10 January 1979 (1979-01-10)	1-8
A	page 1, line 48 -page 2, line 75; figures 1,2	9-14,16,17,19
X	EP 0 174 170 A (CASTLETON INC) 12 March 1986 (1986-03-12)	1,2,4-9
A	page 7, line 12 -page 13, line 12; figure 1	11-14,19
X	US 2 380 901 A (CHAMBERLAIN JOSEPH W) 31 July 1945 (1945-07-31)	1,3-14,17,19
	page 1, right-hand column, line 14 -page 4, left-hand column, line 69; figures 1-5	
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

17 December 2002

Date of mailing of the international search report

23/12/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Boets, A

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB 02/03367

G.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 961 925 A (RHOAD JOHN H) 8 June 1976 (1976-06-08) column 3, line 58 -column 7, line 60; figures 1-9 ---	1,3-14, 17,19
X	FR 2 441 345 A (ELECTRICITE DE FRANCE) 13 June 1980 (1980-06-13) page 3, line 36 -page 5, line 13; figure 1 ---	1,3-14, 17,19
X	FR 1 178 592 A (PAGGIOLO JEAN-MARC) 12 May 1959 (1959-05-12) page 2, left-hand column, paragraph 6 -right-hand column, paragraph 2; figures 1,2 ---	1,3-12, 17,18
A	US 5 894 739 A (TEMOS EDWARD J) 20 April 1999 (1999-04-20) column 2, line 65 -column 5, line 44; figure 1 ---	15
A	EP 1 072 850 A (BKT BONNET KAELETETECHNIK GMBH) 31 January 2001 (2001-01-31) column 5, line 29 -column 6, line 2; figure -----	15

# INTERNATIONAL SEARCH REPORT

Intern: ☐ International Application No  
PCT/IB 02/03367

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 1537821	A	10-01-1979	NONE	
EP 0174170	A	12-03-1986	AU 596950 B2	24-05-1990
			AU 4715585 A	13-03-1986
			BR 8504334 A	08-07-1986
			EP 0174170 A2	12-03-1986
			ES 8705615 A1	16-07-1987
US 2380901	A	31-07-1945	NONE	
US 3961925	A	08-06-1976	CA 1015967 A1	23-08-1977
FR 2441345	A	13-06-1980	FR 2441345 A1	13-06-1980
FR 1178592	A	12-05-1959	NONE	
US 5894739	A	20-04-1999	AU 8295498 A	08-02-1999
			BR 9806028 A	13-10-1999
			CN 1231028 T	06-10-1999
			JP 2001500246 T	09-01-2001
			WO 9902929 A1	21-01-1999
EP 1072850	A	31-01-2001	DE 19935550 A1	08-02-2001
			EP 1072850 A2	31-01-2001

Form PCT/ISA/210 (patent family annex) (July 1992)

BEST AVAILABLE COPY